This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, please do not report the images to the Image Problems Mailbox.

US006625457B1

(12) **United States Patent**
Raith

(10) **Patent No.: US 6,625,457 B1**
(45) **Date of Patent: Sep. 23, 2003**

(54) **MOBILE TERMINAL WITH LOCATION DATABASE**

(75) Inventor: **Alex Krister Raith**, San Diego, CA (US)

(73) Assignee: **Ericsson Inc.**, Research Triangle Park, NC (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/546,720**

(22) Filed: **Apr. 11, 2000**

(51) **Int. Cl.**[7] **H04Q 7/20**
(52) **U.S. Cl.** **455/456.1**; 455/457; 340/991
(58) **Field of Search** 455/456.1, 457, 455/466, 564, 919, 414, 418, 79, 550; 701/200, 201, 207, 208, 209; 340/990, 991, 993, 455, 456.3, 922, 907, 903

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,559,520 A * 9/1996 Barzegar et al. 342/357.1
5,625,668 A * 4/1997 Loomis et al. 455/456
5,748,899 A * 5/1998 Aldrich 709/222
5,790,974 A * 8/1998 Tognazzini 455/456
5,809,494 A * 9/1998 Nguyen 707/1
5,938,721 A * 8/1999 Dussell et al. 701/211
6,091,956 A * 7/2000 Hollenberg 455/456
6,282,426 B1 * 8/2001 Wang 455/456
6,385,465 B1 * 5/2002 Yoshioka 455/564

OTHER PUBLICATIONS

GB002308946A Worsnop et al. Channel Allocation for Registering in a Cellular Radio Network.*

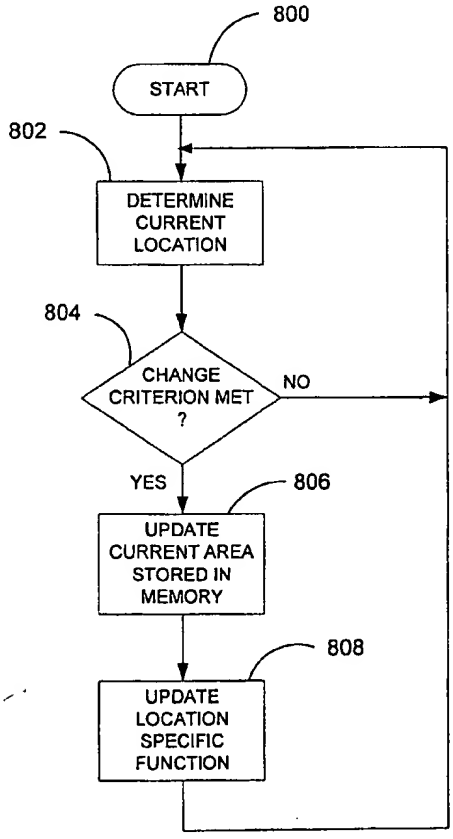
* cited by examiner

Primary Examiner—William Trost
Assistant Examiner—Congvan Tran
(74) *Attorney, Agent, or Firm*—Coats & Bennett, P.L.L.C.

(57) **ABSTRACT**

A mobile terminal includes a positioning receiver and a memory containing a location database. The location database defines a plurality of different geographic areas and contains location specific information pertaining to defined geographic areas. Selected location specific information corresponding to a particular geographic area is output based on the current location of the mobile terminal.

2 Claims, 9 Drawing Sheets



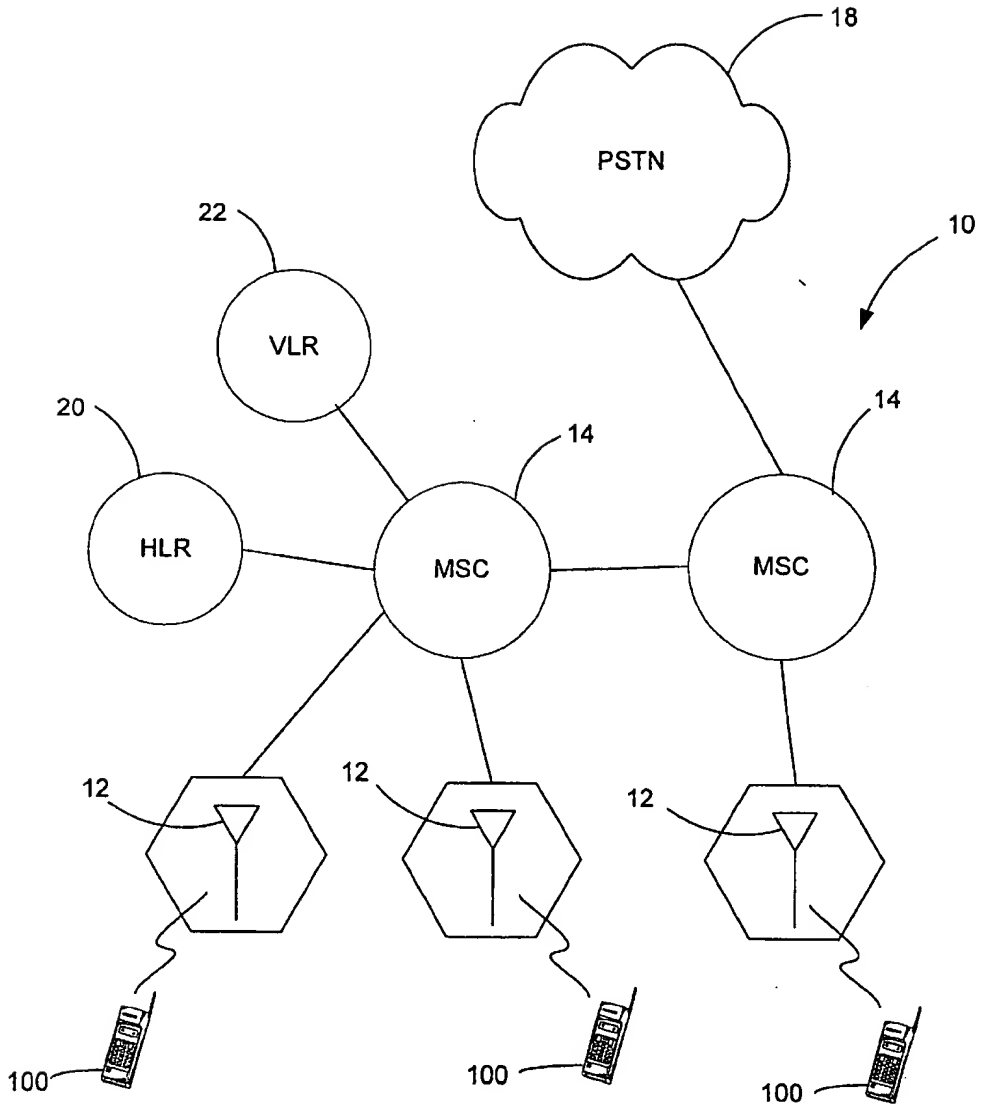


FIG. 1

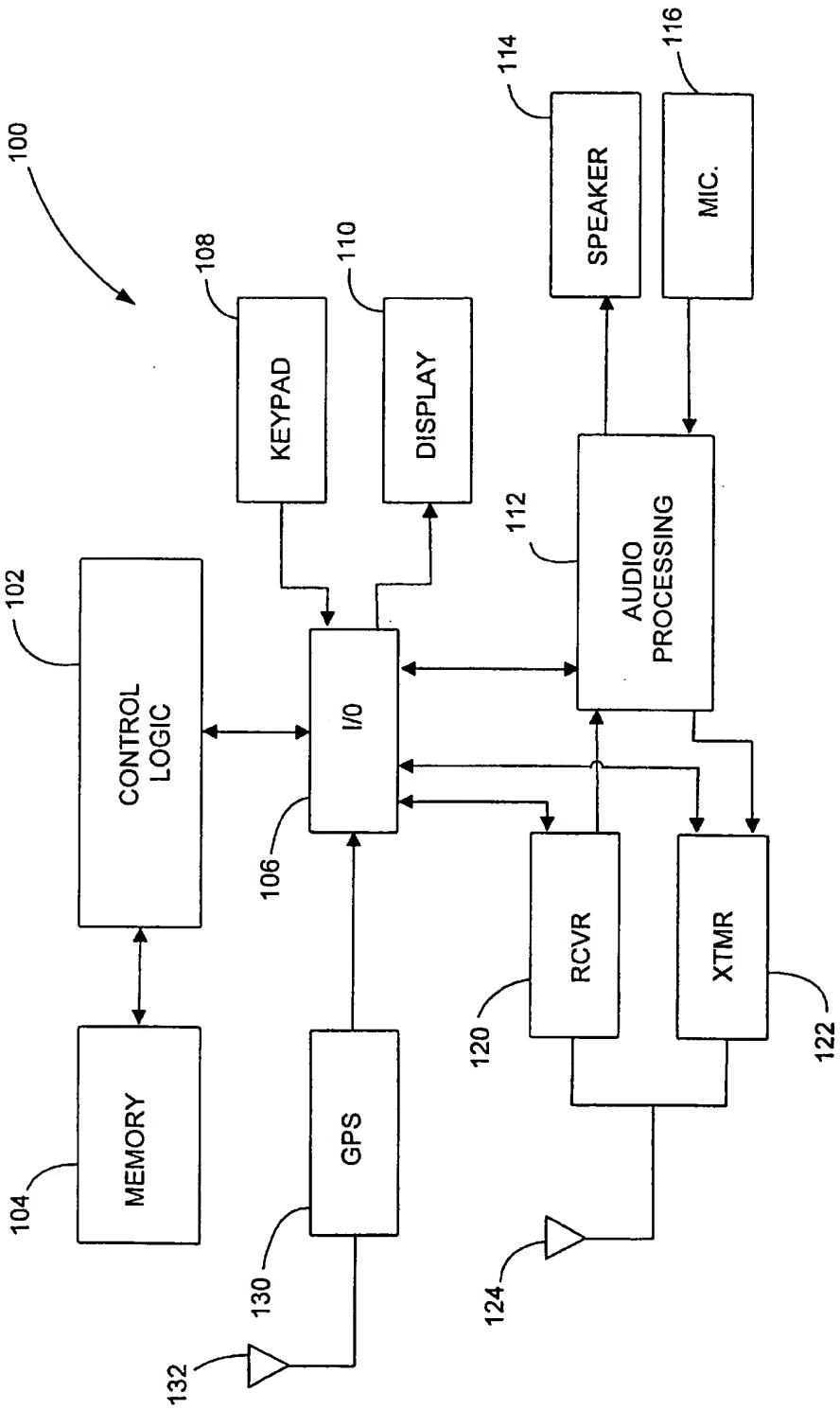

100
102
CONTROL LOGIC
104
MEMORY
106
I/O
108
KEYPAD
110
DISPLAY
112
AUDIO PROCESSING
114
SPEAKER
116
MIC.
120
RCVR
122
XTMR
124
130
GPS
132

FIG. 2

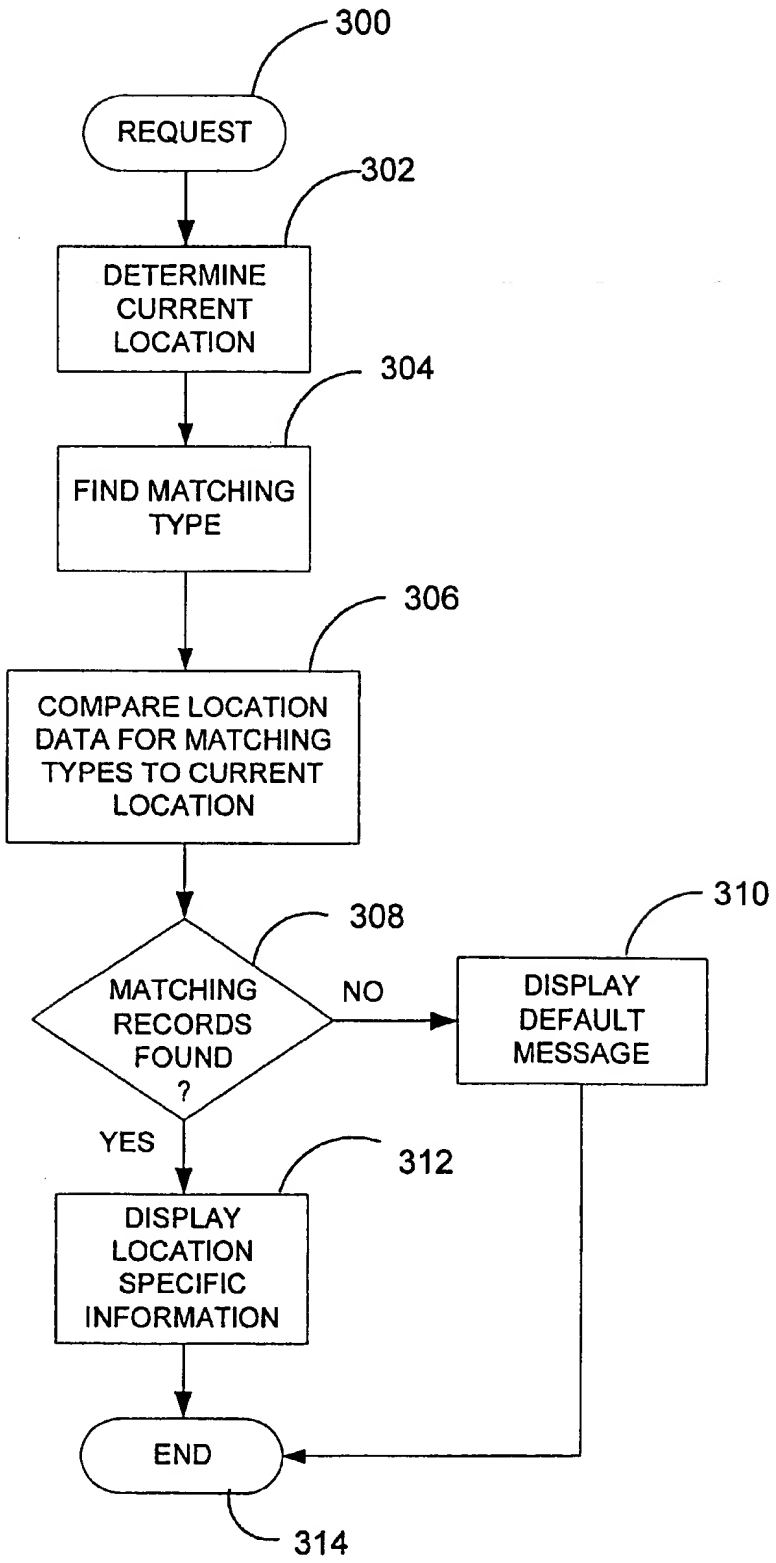

300
REQUEST
302
DETERMINE CURRENT LOCATION
304
FIND MATCHING TYPE
306
COMPARE LOCATION DATA FOR MATCHING TYPES TO CURRENT LOCATION
308
MATCHING RECORDS FOUND ?
NO
310
DISPLAY DEFAULT MESSAGE
YES
312
DISPLAY LOCATION SPECIFIC INFORMATION
END
314

FIG. 3

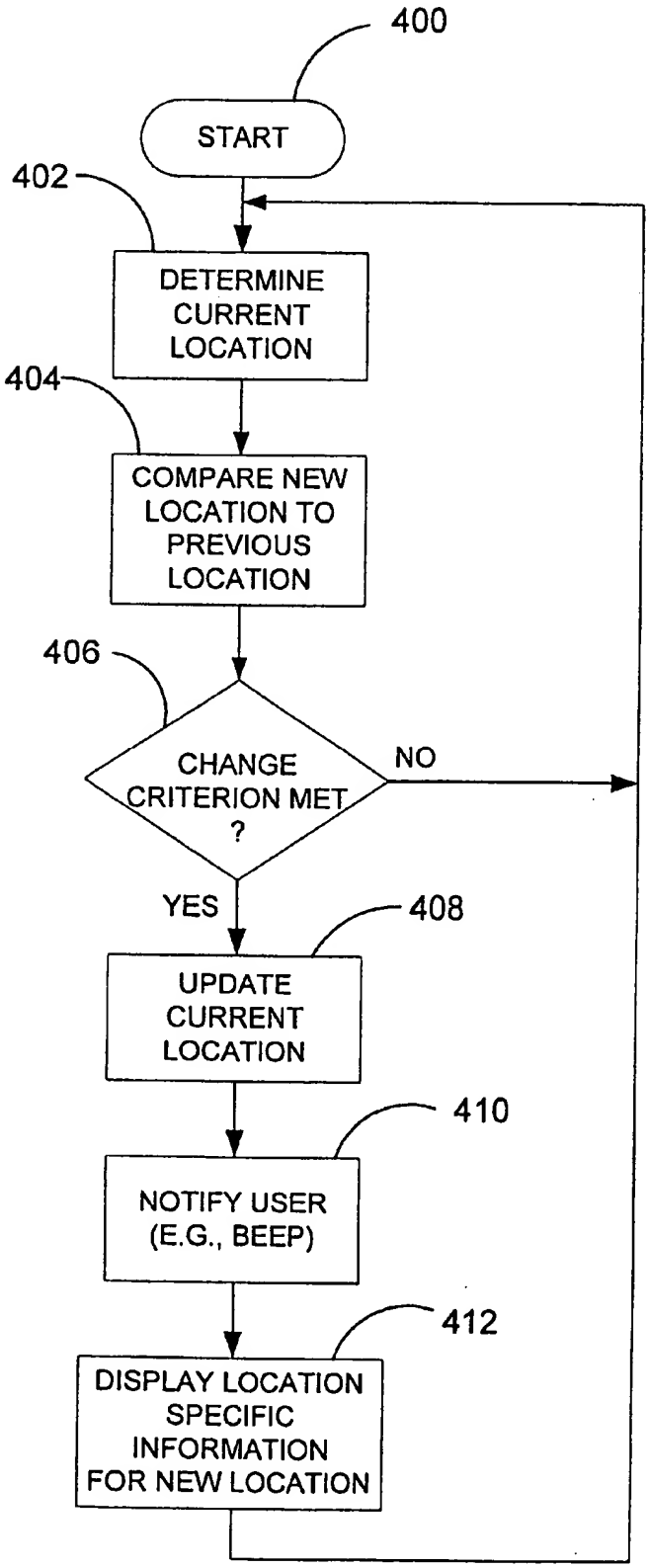

400
START
402
DETERMINE CURRENT LOCATION
404
COMPARE NEW LOCATION TO PREVIOUS LOCATION
406
CHANGE CRITERION MET ?
NO
YES
408
UPDATE CURRENT LOCATION
410
NOTIFY USER (E.G., BEEP)
412
DISPLAY LOCATION SPECIFIC INFORMATION FOR NEW LOCATION

FIG. 4

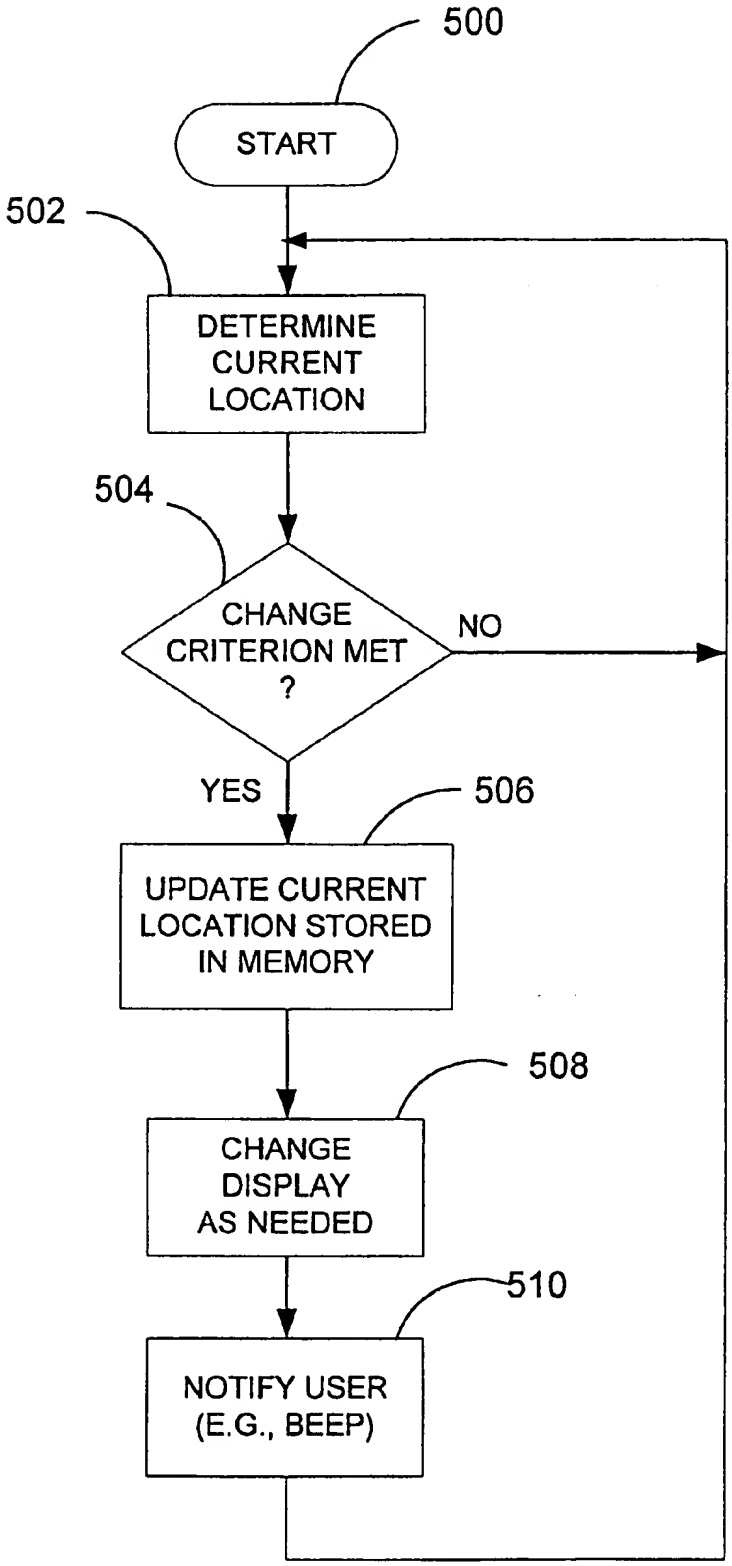

500
START
502
DETERMINE CURRENT LOCATION
504
CHANGE CRITERION MET ?
NO
YES
506
UPDATE CURRENT LOCATION STORED IN MEMORY
508
CHANGE DISPLAY AS NEEDED
510
NOTIFY USER (E.G., BEEP)

FIG. 5

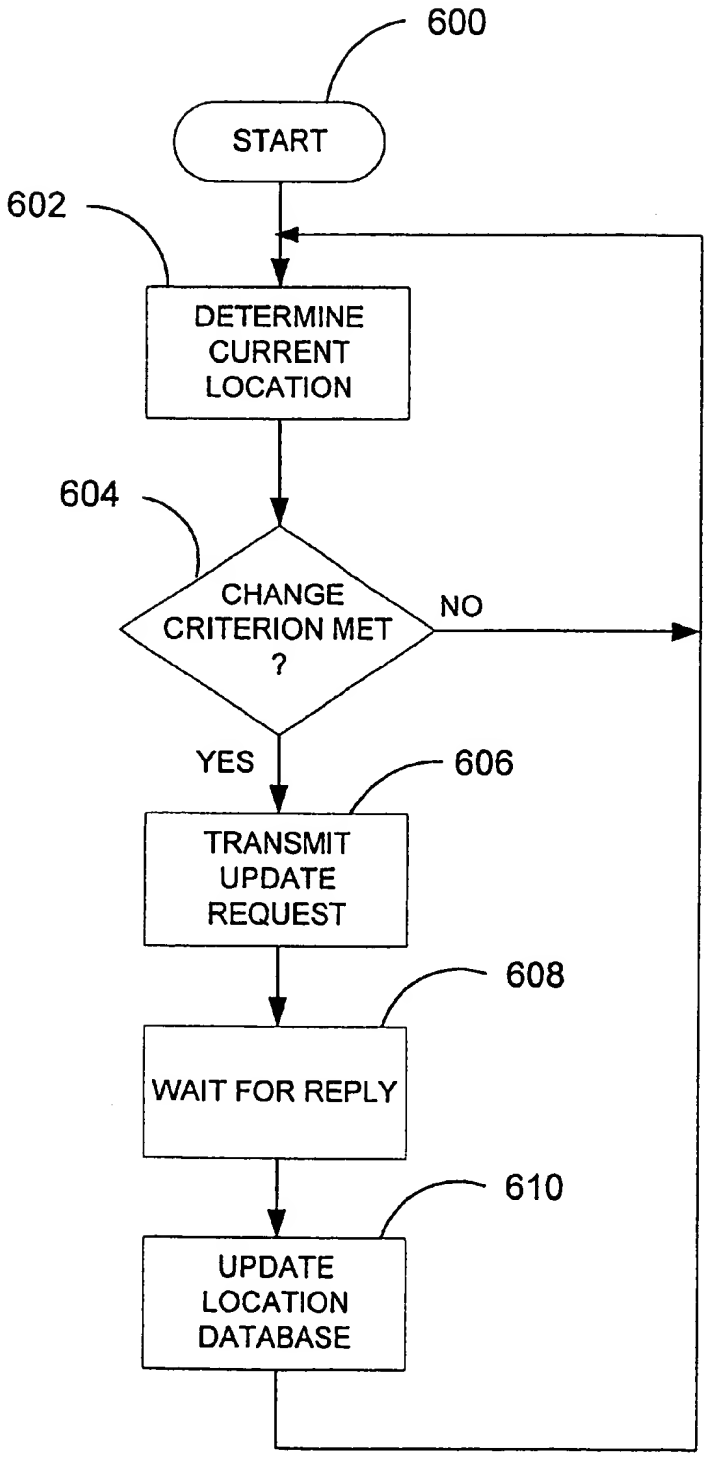

600
START
602
DETERMINE CURRENT LOCATION
604
CHANGE CRITERION MET ?
NO
YES
606
TRANSMIT UPDATE REQUEST
608
WAIT FOR REPLY
610
UPDATE LOCATION DATABASE

FIG. 6

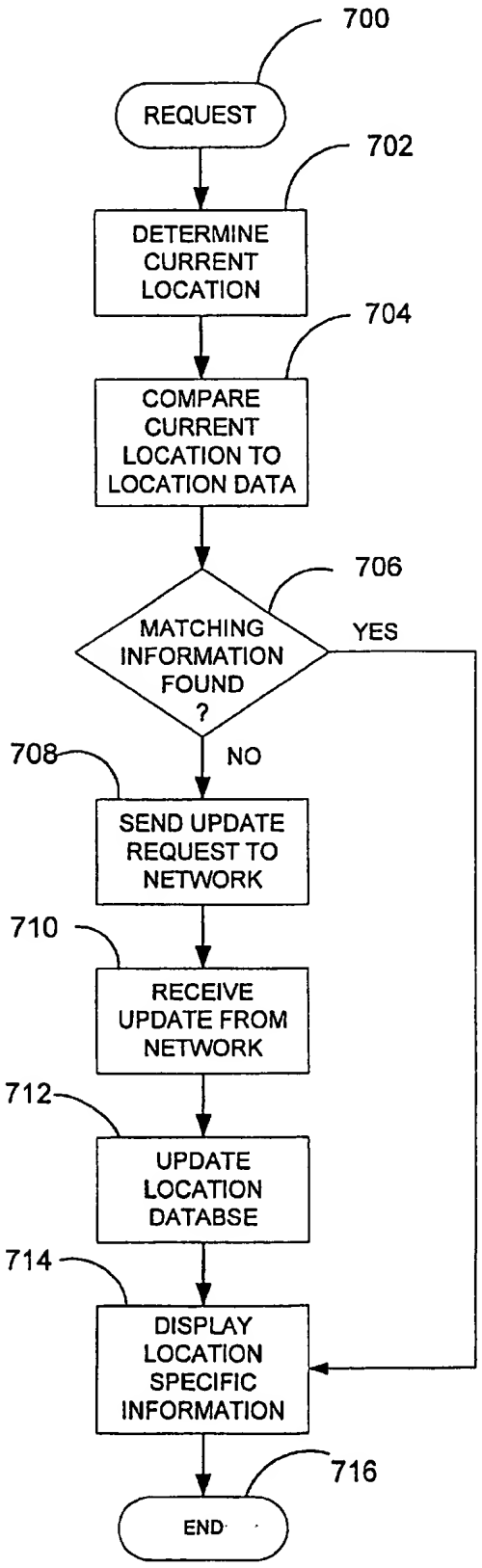

700
REQUEST
702
DETERMINE CURRENT LOCATION
704
COMPARE CURRENT LOCATION TO LOCATION DATA
706
MATCHING INFORMATION FOUND ?
YES
NO
708
SEND UPDATE REQUEST TO NETWORK
710
RECEIVE UPDATE FROM NETWORK
712
UPDATE LOCATION DATABSE
714
DISPLAY LOCATION SPECIFIC INFORMATION
716
END

FIG. 7

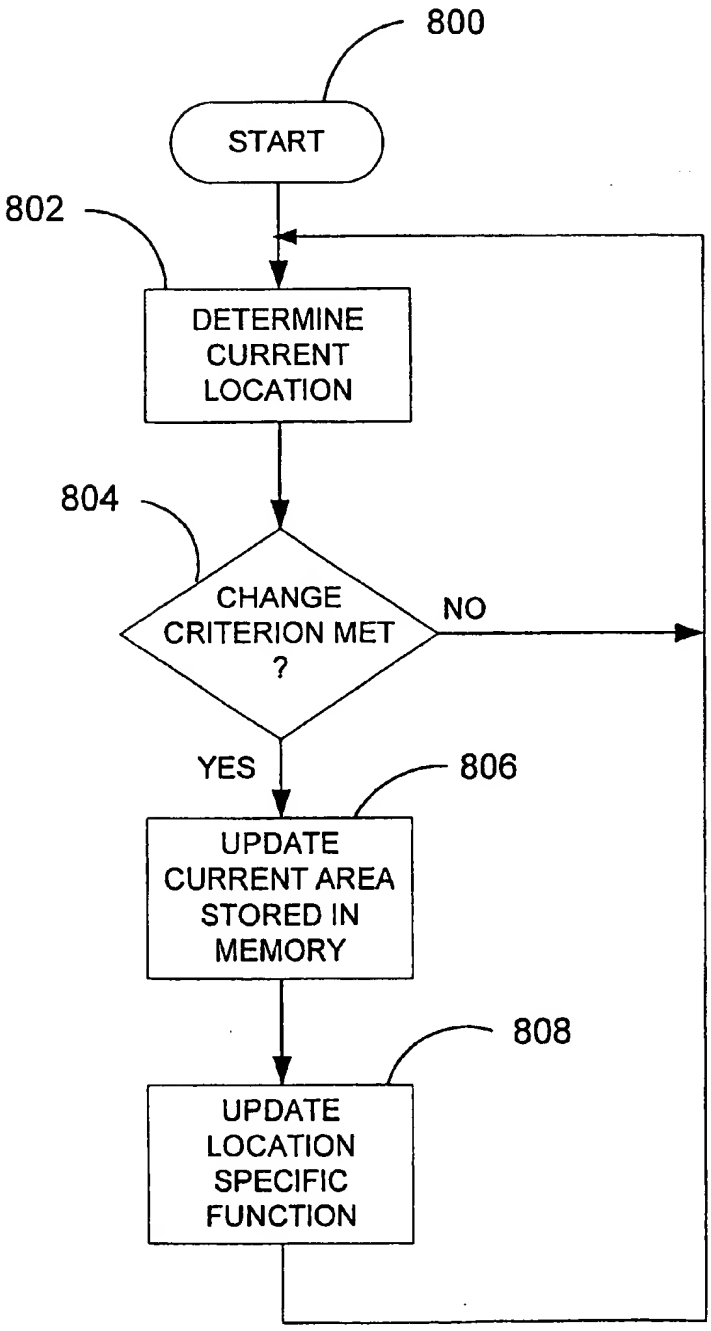

800
START
802
DETERMINE CURRENT LOCATION
804
CHANGE CRITERION MET ?
NO
YES
806
UPDATE CURRENT AREA STORED IN MEMORY
808
UPDATE LOCATION SPECIFIC FUNCTION

FIG. 8

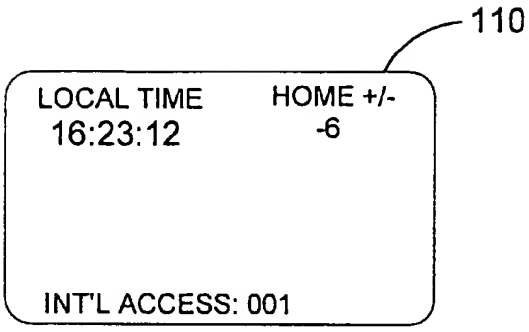


FIG. 9

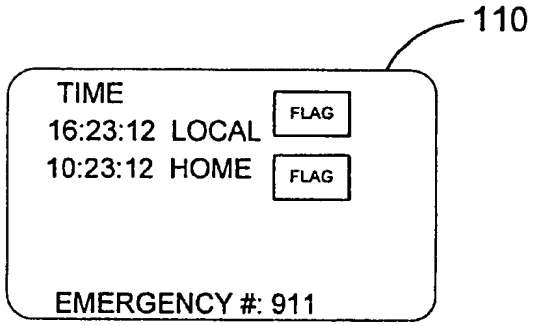


FIG. 10

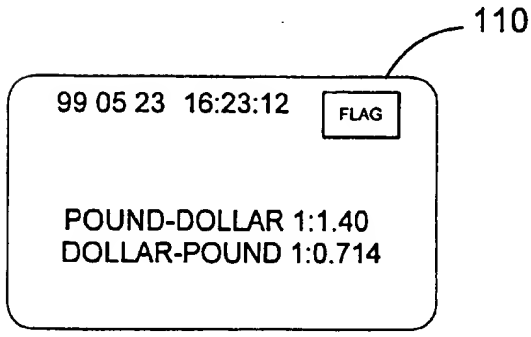


FIG. 11

MOBILE TERMINAL WITH LOCATION DATABASE

BACKGROUND OF THE INVENTION

The present invention relates generally to mobile communication devices, such as cellular telephones and, more particularly, to a mobile communication device having a location database for storing location specific information that can be retrieved and displayed based on the current location of the mobile communication device.

Mobile terminals, such as cellular telephones and personal digital assistants, are in widespread use. One reason for the popularity of mobile terminals is that such devices free the user from tethers to fixed communication networks and allow the user to remain in communication with others while traveling about freely. For this reason, mobile terminals are particularly popular among persons who travel frequently between different geographic areas.

Mobile terminal users traveling between different geographic areas frequently need information about the geographic area in which they are currently located. For example, a mobile terminal user may need information such as a local travel agency telephone number, location of the nearest post office, or currency exchange rate. This information may not be readily available to the mobile terminal user. Often times, the time used to locate or obtain the needed information could be spent more productively performing other tasks.

The patent to Loomis et al, U.S. Pat. No. 5,625,668, discloses a locating system for a mobile terminal having a Global Positioning System (GPS) receiver. The mobile terminal transmits latitude, longitude, and bearing information to a data processing facility in a mobile communication network. The data processing facility processes the latitude, longitude, and bearing information and converts such information into terms useful to a lay person, such as a street address. Either spoken or digital information about the current location of the mobile terminal is then transmitted back to the mobile terminal.

One drawback to the locating system described in Loomis is that it uses a data processing facility located in the mobile communication network. To obtain needed information, the mobile terminal must initiate a communication session with the network. Communication with the fixed network to obtain needed information requires a significant amount of signaling overhead and uses bandwidth that could be used for other purposes. Additionally, if the mobile terminal is for some reason unable to communicate with the network, the user would have no way of obtaining the needed information.

Accordingly, there is a need for a more convenient way to obtain needed information about the current location of the user; one that does not require a dedicated transaction with the network and that minimizes the use of the available bandwidth.

SUMMARY OF THE INVENTION

The present invention relates to a mobile terminal having a location database for storing location specific information. Location specific information pertaining to predefined coordinate positions or geographic areas is also stored in the location database. The mobile terminal also includes a positioning receiver for determining the current location of the mobile terminal. Location specific information is retrieved from the location database based on the current location of the mobile terminal. The location specific information is then displayed or otherwise output for use by the mobile terminal user.

Location specific information may be displayed at all times, when requested by a user, or when a change of location is detected. If memory constraints are a concern, an adaptive scheme can be employed to update the location database. The location database can be updated based on travel history, call history, current location, or some combination of these factors. For example, information about areas that have not been visited can be discarded to make room for information about other areas or to store higher resolution data for areas previously visited. Information needed to update the location database can be downloaded by the mobile terminal from the mobile communication network.

In another aspect of the invention, the current location of the mobile terminal may be used to update location specific features of the mobile terminal. For example, the mobile terminal may include pre-programmed buttons to dial specified numbers, such as the local emergency authorities, local law enforcement officials, hospitals, etc. As the mobile terminal moves from one jurisdiction or area to another, the local telephone numbers for various agencies or businesses will likely change. According to the present invention, the location specific functions are automatically reprogrammed as needed without user intervention when a change in location is detected.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a block diagram illustrating a typical mobile communication network.

FIG. **2** is a block diagram illustrating a mobile terminal in the mobile communication network of FIG. **1**.

FIG. **3** is a flow diagram of a procedure for displaying location specific information in response to a user request.

FIG. **4** is a flow diagram of a procedure for displaying location specific information in response to a change in geographic areas.

FIG. **5** is a flow diagram of a procedure for updating the display of location specific information when a change in geographic area is detected.

FIG. **6** is a procedure for updating the location database based on the current location of the mobile terminal.

FIG. **7** is a flow diagram of a procedure for displaying location specific information in response to user requests which includes automatic updating of the location database.

FIG. **8** is a flow diagram illustrating a procedure for automatically updating location specific functions of the mobile terminal.

FIGS. **9–11** are illustrations showing various formats for displaying location specific information.

DETAILED DESCRIPTION OF THE INVENTION

FIG. **1** illustrates the architecture of a typical circuit-switched mobile communication network, which is indicated generally by the numeral **10**. The mobile communication network **10** comprises a plurality of base stations **12** which are connected via a mobile services switching center (MSC) **14** to a terrestrial communication network, such as the Public Switched Telephone Network (PSTN) **18**. Each base station **12** is located in, and provides service to, a

geographic region referred to as a cell. In general, there is one base station **12** for each cell within a given network **10**. Within each cell, there may be a plurality of mobile terminals **100** that communicate via radio link with the base station **12**. The base station **12** allows the user of the mobile terminal **100** to communicate with other mobile terminals **100**, or with users connected to the PSTN **18**. The MSC **14** routes calls to and from the mobile terminal **100** through the appropriate base station **12**. Information concerning the location and activity status of mobile terminals **100** is stored in a Home Location Register (HLR) **20** and a Visitor Location Register (VLR) **22**, which are connected to the MSCs **14**. Examples of circuit-switched networks include the Global System for Mobile Communication (GSM) systems, Time Division Multiple Access (TDMA) systems such as TIA/EIA-136 systems, Code Division Multiple Access (CDMA) systems such as TIA/EIA-95 systems, Wideband Code Division Multiple Access (W-CDMA) systems, satellite systems such as Globestar and Iridium, and future systems such as CDMA 2000. Additionally, the present invention may be used in packet-switched networks (not shown), which may use, for example, the General Packet Radio Service (GPRS) protocol or Internet Protocol (IP).

FIG. **2** is a block diagram of an exemplary mobile terminal **100**. The mobile terminal **100** is a fully functional cellular telephone, such as a TIA/EIA-136 compliant cellular telephone, capable of transmitting and receiving signals. The mobile terminal **100** includes a main control logic **102** for controlling the operation of the mobile terminal **100** and memory **104** for storing control programs and data used by the mobile terminal **100** during operation. Input/output circuits **106** interface the main control unit **102** with keypad **108**, display **110**, audio processing circuits **112**, receiver **120**, transmitter **122**, and positioning receiver **130**. The keypad **108** allows the operator to dial numbers, enter commands, and select options. The display **110** allows the operator to see dialed digits, stored information, and call status information. The audio processing circuits **112** provide basic analog audio outputs to a speaker **114** and accept analog audio inputs from a microphone **116**. The receiver **120** and transmitter **122** receive and transmit signals using shared antenna **124**.

The positioning receiver **130**, which may, for example, comprise a Global Positioning System (GPS) receiver, enables the mobile terminal **100** to determine its current location based on positioning signals transmitted by a GPS satellite. In the disclosed embodiment, the GPS receiver **130** includes a separate antenna **132**, but could alternatively share an antenna with the receiver **120** and/or transmitter **122**. Also, in lieu of GPS receiver **130**, the mobile communication network **10** could determine the location of the mobile terminal **100** and transmit the location to the mobile terminal **100**. Position information could be transmitted when the mobile terminal **100** powers up, at periodic intervals, or upon request by the mobile terminal **100**. Additionally, the mobile terminal **100** could determine a rough location based on information, such as the base station ID, that is transmitted by the base station **12** to the mobile terminal **100**. In systems that do not broadcast a unique worldwide base station ID, it may still be possible to identify the base station by a combination of factors. For example, a base station ID in combination with a country code or system operator code may be sufficient to uniquely identify a particular base station **12** and, from that, determine a current mobile terminal **100**. Of course, other factors may also be used to uniquely identify the base station **12** depending on the particular system being used.

According to the present invention, a location database is stored in memory **104** of the mobile terminal **100**. The location database stored in memory **104** contains location specific information related to pre-defined positions or geographic areas in the location database. Examples of location specific information include local emergency telephone numbers (e.g., police, fire, ambulance), local time, local language dictionary, local currency exchange rates, telephone numbers for public transportation (e.g., taxis, buses, train, airports), and telephone numbers for public facilities or accommodations (post offices, hotels, restaurants). This list is not intended to be exclusive but merely illustrates the types of location specific information that can be stored. Location specific information may comprise any information that changes based on current location of the mobile terminal **100**. Also, location specific information may include graphic images associated with a particular location. For example, a graphic image of a flag or map of a country may be displayed to indicate the country for the current location.

Location specific information stored in the location database is associated with a location data, such as a coordinate position or a defined geographic area. When location specific information is requested by the user of the mobile terminal **100**, or by an application running on the mobile terminal **100**, the location database is queried to return the desired information based on the current location of the mobile terminal **100**. For example, if the user requests a list of hotels in the locality of the mobile terminal **100**, the mobile terminal **100** could query the location database to return a list of hotels and then reduce the list by comparing the associated location data with the current location of the mobile terminal **100**. A list of hotels within a predetermined distance (which could be programmed) of the current location of the mobile terminal **100**, or within the same geographic area, would be sent to the display **110**. The particular manner in which the information is retrieved is not a material aspect of the invention. The important part is that location specific information is associated in some manner with location data that can be compared to the current location of the mobile terminal **100**.

FIGS. **9**, **10**, and **11** show various displays, which are meant to be illustrative of the manner of displaying information to the user. In FIG. **9**, the local time at the current location of the mobile terminal **100** is displayed. The number beside the local time indicates the time difference between the local time and the current time in the user's home territory. The International Access Code is displayed along the bottom of the display **110**. FIG. **10** shows a different format for displaying time. In FIG. **10**, both the local time and the time in the user's home territory are displayed. An image of a flag is displayed beside both time indications to indicate the area pertaining to each time indication. The local emergency number is displayed at the bottom of the display **110**. In FIG. **11** the date and time are displayed at the top of the display **110**, along with a time difference between the time in the current location and the time in the user's home territory. Currency exchange rates are displayed below the time indications to indicate the rate of exchange between currency in the local area and the user's home currency. Those skilled in the art will recognize that many other formats could be used. These illustrations exemplify how information can be formatted and are not to be construed as limiting.

The location data in the location database, as previously mentioned, may reference pre-defined geographic areas, referred to as area definitions, stored in the mobile terminal

100, either as part of the location database or as part of some other database. The defined geographic areas may, for example, comprise countries, states, counties, cities, or other useful geographic areas. The geographic areas defined in the location database may include sub-areas. For example, the areas defined may include countries, the states or provinces within each country, and the counties within each state or province. The geographic areas defined by the location database do not, however, need to correspond to political boundaries. Further, it is important to note that the geographic areas do not have to be distinct. That is, geographic areas defined by the location database may overlap one another, or even be wholly included in another geographic area.

The location database, which contains location data and location specific information, may be loaded into memory **104** by the manufacturer or seller prior to initial activation of the mobile terminal **100**, downloaded over the air from the mobile communication network **10** into memory **104** following activation, or entered by the end user, such as by using an application program running on a personal computer that interfaces with the mobile terminal **100**. The location database could also be contained in a removable memory device, such as a smart card, that can be inserted into the mobile terminal **100** and later replaced. The end user could also input location specific information using the keypad **108** and display **110**. Other types of input devices could also be used including various types of pointing devices, and voice recognition.

Location specific information may be displayed at all times, when requested by the user, when predetermined criterion related to change of position is met, or some combination of these methods.

FIG. **3** illustrates a procedure for displaying location specific information upon request by the user. When a request for location specific information is made (block **300**), the mobile terminal **100** determines its current location (block **302**) and searches the database for information of the requested type (block **304**), if a particular type of information is specified. The mobile terminal **100** then compares the current location of the mobile terminal **100** to the location data corresponding to the information of interest (block **306**). If no information is found matching the current location of the mobile terminal **100** (block **308**), a default message may be displayed (block **310**) indicating that the requested information is not available for the current location of the mobile terminal **100**. If location specific information is found matching the current geographic location of the mobile terminal (block **308**), the mobile terminal **100** displays the matching information on the mobile terminal's display **110** (block **312**). Alternatively, the information could be output in audible form through the mobile terminal's speaker **114**. The procedure ends (block **314**) when the requested information is displayed.

FIG. **4** illustrates a procedure that displays location specific information in response to a change in the position of the mobile terminal **100**. The procedure may be started automatically by an initialization procedure when the mobile terminal **100** is first turned on or may be started manually by the user (block **400**). The mobile terminal **100** periodically determines its current location (block **402**). After determining its current location, the mobile terminal **100** compares its new location to a previous location, which may be stored in memory (block **404**), and determines whether predetermined change criterion has been met (block **406**). The change criterion may simply be a distance threshold from a previously stored location, or may be a change from one defined geographic area to another, if area definitions are used. The particular change criterion is not material. If the change criterion is met (block **406**), the mobile terminal **100** updates its current location (block **408**) and then notifies the user of the change, for example, by beeping (block **410**). Location specific information for the current location of the mobile terminal **100** is then retrieved from memory **104** and displayed (block **412**). The display of location specific information may be automatic or, alternatively, may be conditioned on the user's response to a prompt or some other event. For example, mobile terminal **100** may be programmed to display a prompt when a change in position is detected. The prompt may, for example, identify the new position and ask the user whether to display corresponding location specific information. Location specific information would then be displayed based on the user's response to the prompt. Preferably, the user may select the type of location specific information that is displayed. Such selection can be made through a menu system that allows the user to customize mobile terminal **100** operation and set desired options.

It may be desirable to display some location specific information at all times or on some periodic basis. For example, some mobile terminals **100** display the current time which may change depending on the time zone. In such cases, it is necessary to update the display based on the current location of the mobile terminal **100**. FIG. **5** illustrates a procedure for updating location specific information that is displayed at all times or on some periodic basis. The procedure preferably starts (block **500**) whenever location specific information is displayed. Once started, the mobile terminal **100** periodically determines its current location (block **502**). After determining its current location, the mobile terminal **100** compares its current location to a previously-stored location and determines whether predefined change criterion has been met (block **504**). If so, the mobile terminal **100** updates the current location stored in memory **104** (block **506**) and then changes the display **110** as needed (block **508**). If the information displayed changes, the user may be alerted to the change by a beep or some other indication (block **510**).

The amount of memory **104** needed to practice the invention will depend on the extent of the geographic area covered by the location database and the resolution of the coordinate positions or geographic areas in the coverage area. As memory technology advances, concerns about the amount of memory **104** will disappear. Thus, it is expected that the coverage area of the location database may extend throughout the entire world. If memory requirements are a concern, an adaptive scheme can be employed wherein location specific information about geographic areas not visited can be discarded. The memory **104** made available by discarding location specific information concerning unvisited geographic areas can then be used to store higher resolution data for previously visited areas, or to store location specific information about other geographic areas that are more likely to be visited.

Another adaptive scheme to minimize the size of the location database would be to dynamically update the location database stored in memory **104** as the location of the mobile terminal **100** changes, e.g. the mobile terminal **100** moves from one area to another area. FIG. **6** shows a procedure for dynamically updating the location database based on the changing location of the mobile terminal **100**. The procedure may start when the mobile terminal **100** is first turned on or may be manually activated by the user (block **600**). Once started, the mobile terminal **100** periodi-

cally determines its current location (block **602**). Each time the current location is determined, the mobile terminal **100** determines whether pre-defined change criterion has been satisfied (block **604**). If so, the mobile terminal **100** transmits an update request to the mobile communication network **10** (block **606**). The mobile terminal **100** then waits for a response from the mobile communication network (block **608**), and then updates the location database with the new information after a response is received (block **610**). If memory constraints are a problem, the mobile terminal **100** may delete location specific information that has not been recently accessed. Preferably, location specific information would be deleted based on some criterion such as frequency of use, distance, travel history, or call history, rather than at random, so that information likely to be needed is not deleted.

FIG. **7** shows a procedure similar to the procedure of FIG. **3**, which incorporates dynamic updating of the location database. When a request for location specific information is made (block **700**), the mobile terminal **100** determines its current location (block **702**) and compares the current location to the location data contained in the location database (block **704**) as previously described. If location specific information corresponding to the current location is found, the mobile terminal **100** displays the requested information for viewing by the user (block **714**). If no location-specific information corresponding to the current location of the mobile terminal **100** is found (block **706**), an update request is transmitted to the mobile communication network **10** (block **708**) to provide the requested information. The mobile communication network **10** transmits the requested update to the mobile terminal **100** in response to the update request (block **710**) and the mobile terminal **100** makes appropriate updates to the location database (block **712**). The mobile terminal **100** then retrieves and displays the requested information (block **714**) after the location database has been updated. The procedure ends (block **716**) when the requested information is displayed.

As noted above, the location data may comprise references to pre-defined geographic areas. The pre-defined geographic areas may overlap one another, in whole or in part. Thus, it is possible that the geographic areas may be hierarchical in nature (e.g., country, state, county, city, campus, building, etc.). If so, then the mobile terminal **100** is confronted with the problem of determining which location specific information to output. In some embodiments, the mobile terminal **100** may simply display all the relevant location specific information associated with all matching geographic areas, without regard to conflicts between the information. However, when there is location specific information that conflicts, the mobile terminal **100** is preferably programmed to select between the competing location specific information items. For instance, the mobile terminal **100** may display the non-conflicting location specific information, but display the conflicting location specific information associated with the wholly contained geographic area (i.e., the county's information is prioritized over the state's). By way of example, the mobile terminal **100** may display the name of the state where the mobile terminal **100** is located, along with the name of the largest city of the county where the mobile terminal **100** is located and the local travel agency phone number, rather than the state-wide toll free number. Thus, the display **110** may display "North Carolina, Durham, travel=555-3456." Alternative methods of prioritizing the geographic areas may also be used, such as the relative longevity of the mobile terminal **100** in the geographic area, or the relative newness of the mobile terminal **100** to the geographic area, or lowest level only, etc. In other situations, the geographic areas may be peer level geographic areas that overlap. In such situations, the mobile terminal **100** should determine which geographic area to give priority to based on proximity to the center of the respective geographic areas, on user preferences, or some other criterion such as amount of time previously spent in one of the geographic areas. Alternatively, the mobile terminal **100** may sequentially output the location specific information for the respective overlapping or hierarchical geographic areas in a looping fashion, or prompt the user to select the appropriate geographic area of interest.

In another aspect of the invention, the current location of the mobile terminal **100** may be used to update location specific functions of the mobile terminal **100**. By way of example, assume that the mobile terminal **100** pre-programmed buttons to automatically dial local authorities or local business of a specified type. The local authorities and local businesses will likely change when the user of the mobile terminal **100** travels between two geographic areas. According to the present invention, the mobile terminal **100** automatically reprograms location specific functions based on the current location of the mobile terminal **100** without intervention by the user. In the above example, the mobile terminal **100** would automatically re-program the number for local authorities or business whenever a change in location is detected.

FIG. **8** is a flow diagram illustrating an exemplary procedure for automatically reprogramming a location specific function. Once started (block **800**), the update procedure starts (block **800**) when the phone is first turned on or, alternatively, may be manually started by the user. Once started, the mobile terminal **100** periodically determines its current location (block **802**). Each time the current location of the mobile terminal **100** is updated, the mobile terminal **100** determines whether a change in geographic areas has occurred (block **804**). If so, the mobile terminal **100** updates the current area stored in memory (block **806**) and updates location specific functions as needed (block **808**). For example, if the location specific function is an emergency calling feature, the local emergency response numbers for each geographic area could be stored in the location database. When the user travels between two different geographic areas, the local emergency response numbers in the two areas are compared. If the numbers are different, the mobile terminal **100** would automatically reprogram the emergency call button to call the local emergency response number for the new geographic area.

The present invention may, of course, be carried out in other specific ways than those herein set forth without departing from the spirit and essential characteristics of the invention. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive, and all changes coming within the meaning and equivalency range of the appended claims are intended to be embraced therein.

What is claimed is:

1. A method of automatically reprogramming a location specific function of a mobile terminal, said method comprising:

storing a location database in said mobile terminal, said location database including location specific information and associated location data;

determining a current location of said mobile terminal;

comparing said current location of said mobile terminal with said location data to select location specific information stored in said location database; and

automatically reprogramming a location specific function based on said selected location specific information.

2. The method of claim 1 wherein automatically reprogramming a location specific function based on said selected location specific information comprises reprogramming an autodial button.

* * * * *